LLECTUAL PROPERTY ORGANIZATION
International Bureau

ISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 5 : A45F 3/14, B65G 7/12

(11) International Publication Number: WO 91/13568

A1

(43) International Publication Date: 19 September 1991 (19.09.91)

(21) International Application Number: PCT/GB91/00352

(22) International Filing Date: 6 March 1991 (06.03.91)

(30) Priority data:
9005026.1 6 March 1990 (06.03.90) GB

(71)(72) Applicant and Inventor: CATT, Vince, Christopher [GB/GB]; Flat 2, 2 Quarry Crescent, Hastings, East Sussex TN34 3SD (GB).

(74) Agent: NEEDLE, Jacqueline; W.H. Beck, Greener & Co., 7 Stone Buildings, Lincoln's Inn, London WC2A 3SZ (GB).

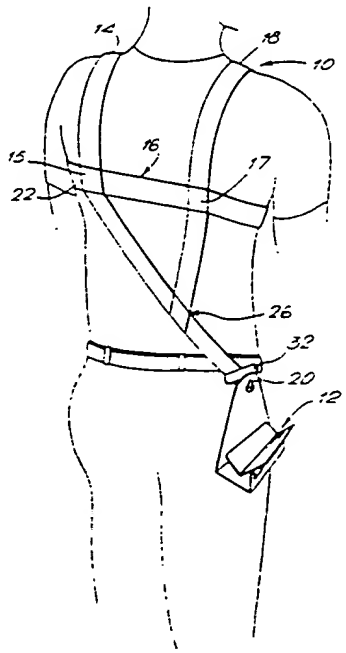
(81) Designated States: AT, AT (European patent), AU, BB, BE (European patent), BF (OAPI patent), BG, BJ (OAPI patent), BR, CA, CF (OAPI patent), CG (OAPI patent), CH, CH (European patent), CM (OAPI patent), DE, DE (Utility model), DE (European patent), DK, DK (European patent), ES, ES (European patent), FI, FR (European patent), GA (OAPI patent), GB, GB (European patent), GR (European patent), HU, IT (European patent), JP, KP, KR, LK, LU, LU (European patent), MC, MG, ML (OAPI patent), MR (OAPI patent), MW, NL, NL (European patent), NO, PL, RO, SD, SE, SE (European patent), SN (OAPI patent), SU, TD (OAPI patent), TG (OAPI patent), US.

Published
With international search report.

(54) Title: APPARATUS FOR AND METHOD OF FACILITATING THE CARRIAGE OF ARTICLES

(57) Abstract

Apparatus designed to facilitate the carrying, by an individual, of articles has a support member (12) in which part of the article can be received such that its weight is transferred to the shoulders of the individual by means of a harness (10). The harness (10) is formed from an arrangement of elongate straps (14, 16, 18). The first strap (14) is arranged to be placed on one shoulder of the wearer to extend across both the back and front of the individual in the manner of a sash. Attachment means (32) are provided on the first strap (14) and may be generally adjacent the hip of the wearer. The attachment means (32) enable the attachment of the support member (12) to the harness (10) to depend therefrom. The support member (12) comprises an elongate, substantially planar base (40) and two spaced, facing, upstanding side walls (46, 50) extending upwardly from said base (40) whereby an elongate channel is defined.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	ES	Spain	MG	Madagascar
AU	Australia	FI	Finland	ML	Mali
BB	Barbados	FR	France	MN	Mongolia
BE	Belgium	GA	Gabon	MR	Mauritania
BF	Burkina Faso	GB	United Kingdom	MW	Malawi
BG	Bulgaria	GN	Guinea	NL	Netherlands
BJ	Benin	GR	Greece	NO	Norway
BR	Brazil	HU	Hungary	PL	Poland
CA	Canada	IT	Italy	RO	Romania
CF	Central African Republic	JP	Japan	SD	Sudan
CG	Congo	KP	Democratic People's Republic of Korea	SE	Sweden
CH	Switzerland			SN	Senegal
CI	Côte d'Ivoire	KR	Republic of Korea	SU	Soviet Union
CM	Cameroon	LI	Liechtenstein	TD	Chad
CS	Czechoslovakia	LK	Sri Lanka	TG	Togo
DE	Germany	LU	Luxembourg	US	United States of America
DK	Denmark	MC	Monaco		

APPARATUS FOR AND METHOD OF FACILITATING THE CARRIAGE OF ARTICLES

The present invention relates to apparatus for, and a method of facilitating the carriage of articles by an individual.

Individuals working in the construction industry are often required to carry a large number of articles such as boards, slabs, sheet material or rods or the like in the course of their work. The carriage of boards and slabs, for example, by hand is difficult because of their bulk and weight. In addition, it is often necessary to move a large number of such articles at any one time.

The present invention seeks to provide apparatus for, and a method of, facilitating the carriage of articles.

According to an aspect of the present invention, there is provided apparatus for facilitating the carriage of articles by an individual comprising a harness for an individual, the harness having at least one first strap arranged to extend over the individual's shoulder, and a support member attachable to said harness to depend therefrom, said support member defining an elongate channel arranged to extend substantially transversely to the direction of dependence.

In a preferred embodiment the apparatus is arranged such that, when the harness is worn by an adult, said support member is positioned below the waist of the individual. In this respect, the harness is provided with at least one second strap arranged to extend around the individual's upper body. It is particularly convenient for said second, upper body strap to be arranged to extend around the chest, with the support member depending from

the harness such that the support member may be at or proximate an individual's hip.

In use, apparatus of the invention is worn by an individual, and articles to be carried are supported in the channel of said support member and steadied by hand. The harness transmits the weight to the upper body, particularly to at least one shoulder, of the individual. Thus, the apparatus obviates the need to lift the articles by hand and spreads the weight from the hands and arms to the rest of the upper body making it easier for an individual to move a number of the articles one by one.

In a preferred embodiment, said support member comprises first and second facing side wall members upstanding from opposed longitudinal edges of a base wall members whereby said channel is defined between said two side wall members.

Preferably, said first side wall member is attachable to the harness by attachment means. The attachment means may be releasable or permanent, but preferably the attachment means allow pivoting or swinging movement of said support member relative to the harness. For example, said attachment means may comprise a hook on one of the harness or the support member and an aperture or ring or slot for engagement with the hook on the other of the support member or harness. Alternatively, the support member may be attached to one end of an elongate attachment strap or link, the other end of which is attached to said harness.

Additionally and/or alternatively, said attachment means may comprise a slot in said support member through which a strap of said harness extends.

Preferably, said support member is also provided with guide means to aid in the positioning of an article in said channel. The guide means may be shaped and arranged in relation to the article to be positioned. For example, where the article is sheet material, said guide means may comprise a guide surface extending within said channel and arranged to guide an edge of the sheet material into said channel towards a position in which said edge contacts a base of said channel with the sheet material in contact with one or other of first and second wall members defining the channel. For positioning a rod or bar, for example, said guide means may comprise a guide surface configured to have an arcuate recess extending along said channel. The guide surface may be generally planar and arranged to extend at an angle to said base, or the guide surface may be curved. Said guide surface may be fixed within said channel or may be movable.

In one embodiment, said guide surface is defined by one surface of a plate arranged to extend into said channel from said second wall member. Preferably, said plate is pivotably connected to said second wall member so that the plate may be pivoted between a first, insertion position, in which said guide surface is at an angle to said base, and a second, carrying position, in which said guide surface is generally parallel to said second wall member.

Preferably, said plate is pivotably connected to said second wall member by hinge means provided along the longitudinally extending free edge of said second wall member. Biassing means may be provided for biassing said plate into one of the first and second positions. Preferably, said plate is biassed into its first, insertion position. In an embodiment, said biassing means comprise one or more springs associated with said hinge means.

Limit stops may be provided to limit movement of the plate beyond said first and second positions. Generally, said second wall member will act as a limit stop to prevent further movement beyond said second position. In a preferred embodiment, a limit stop to prevent movement beyond said first position is carried by said second wall member. For example, said second wall member may be provided with an extension portion extending outwardly of said channel from said second wall.

In a preferred embodiment, said guide plate is configured such that in said second, carrying position, a surface thereof acts to urge the article being carried towards said first side wall member. For example, said plate may be curved or bent such that in said second position a first part thereof contacts the article being carried. The plate may also be configured such that in said second position, the article's weight is applied to a second part thereof whereby the article's weight provides a force urging said first part into contact with the article.

The harness may comprise any arrangement of belts and/or straps which is comfortable for an individual to wear and enables the pivotal or swinging attachment of the depending support member. For example, the harness may comprise simply a first elongate strap whose ends are connected. The strap would then be placed on one shoulder to extend across both the back and front of the upper body of the individual in the manner of a sash. Attachment means for said support member would be provided on said strap. In this arrangement, the weight of an article in the support member would be transmitted to said one shoulder.

Most individuals would find it easier for some provision to be made to distribute the weight around the

upper body. Preferably, the harness is provided with at least one second elongate strap connected or coupled to the or each said first strap to extend generally transversely thereof. Preferably, the or each said second strap is connected or coupled to the or each said first strap at two positions spaced longitudinally along the or each said first strap. The ends of the or each said second strap may be connected, coupled, or connectible together. For example, releasable fastening means may be provided to connect together the ends of the or each said second strap. The or each said second strap would be placed on the individual to extend around the upper body, for example, to extend around the chest of the individual.

Many individuals would prefer to have the weight evenly distributed on both shoulders. Accordingly, the harness may be provided with at least one third elongate strap whose ends are connected, coupled, or are connectible together. This third strap could be placed on the other shoulder of the individual.

The or each said third strap may be arranged to cross the or each said first strap and be connected or coupled thereto at one or more locations spaced longitudinally along said first strap. Additionally and/or alternatively, the or each said third strap is arranged to extend generally transversely to the or each said second strap. Preferably, the or each said second strap is connected or coupled to the or each said third strap at two positions spaced longitudinally along the or each said third strap.

Releasable fastening means may be provided to connect the ends of one or more of said straps. For example, the ends of said second strap may be connectible by way of releasable fastening means positionable in the front of the upper body for ease of access. The or each releasable

fastening means may comprise, for example, a buckle on one end of a strap and corresponding holes in the other end of a strap, or a clasp having cooperating clasp parts on corresponding ends of a strap. Additionally, and/or alternatively releasable fastening means may be arranged to connect any of the straps to any other of tne straps.

Adjustment means are also preferably provided to enable the length of selected ones of said straps to be adjusted, for example, for enabling an individual to adjust the harness for comfort. The adjustment means may be independent of said fastening means, and/or the fastening means may be arranged to form said adjustment means and to enable adjustment of the length of selected straps.

The or each said elongate strap may be comprised of a plurality of individual lengths of strap connected together, for example, by releasable fastening means.

In an embodiment, a protective pad is carried on said support member and/or on said attachment means. This pad, which may be of any suitable material, is arranged to protect the individual against rubbing or chafing from the support member. Additionally and/or alternatively, protective pads may be carried by selected straps of said harness to increase comfort to the wearer. For example, a respective pad may be carried by each of said first and third straps for positioning on the wearer's shoulders.

In a preferred embodiment, protective pads are provided as a part of the harness and are utilised to couple straps together, and/or to connect the ends of respective straps. It is also possible to provide adjustment means and/or fastening means on said pads.

The straps of said harness may be made of webbing,

canvas, nylon or any other suitable material. The support member is similarly made of any suitable material. In a preferred embodiment, the support member is made of plastics material or of a plastics coated wire.

According to another aspect of the present invention, there is provided a support member for facilitating the carriage of articles by an individual, said support member comprising an elongate base, and first and second facing side wall members upstanding from opposed longitudinal edges of said base and defining an elongate channel extending between said side wall members, and attachment means at or proximate a free edge of said first side wall member for enabling the connection of the support member to carrying means.

Preferably, when the support member is connected to carrying means by way of said attachment means, the attachment means are arranged to allow pivoting or swinging movement of said support member relative to the carrying means. For example, said attachment means may comprise a hook for engagement with a corresponding aperture or ring, or said attachment means may comprise an aperture or ring for engagement with a corresponding hook. In an alternative embodiment, said attachment means comprises an elongate attachment strap or link having one end connected to said support member.

Additionally and/or alternatively, said attachment means may comprise a slot in said support member through which a strap of an harness extends.

Preferably, said support member is also provided with guide means to aid in the positioning of an article in said channel. The guide means may be shaped and arranged in relation to the article to be positioned. For example,

where the article is sheet material, said guide means may comprise a guide surface extending within said channel and arranged to guide an edge of the sheet material into said channel towards a position in which said edge contacts a base of said channel with the sheet material in contact with one or other of first and second wall members defining the channel. For positioning a rod or bar, for example, said guide means may comprise a guide surface configured to have an arcuate recess extending along said channel. The guide surface may be generally planar and arranged to extend at an angle to said base, or the guide surface may be curved. Said guide surface may be fixed within said channel or may be movable.

In one embodiment, said guide surface is defined by one surface of a plate arranged to extend into said channel from said second side wall member. Preferably, said plate is pivotably connected to said second side wall member so that the plate may be pivoted between a first, insertion position, in which said guide surface is at an angle to said base, and a second, carrying position, in which said guide surface is generally parallel to said second wall member.

Preferably, said plate is pivotably connected to said second side wall member by hinge means provided along a longitudinally extending free edge of said second wall member. Biassing means may be provided for biassing said plate into one of the first and second positions. Preferably, said plate is biassed into its first, insertion position. In an embodiment, said biassing means comprise one or more springs associated with said hinge means.

Limit stops may be provided to limit movement of the plate beyond said first and second positions. Generally, said second side wall member will act as a limit stop to

prevent further movement beyond said second position. In a preferred embodiment, a limit stop to prevent movement beyond said first, insertion position is carried by said second wall member. For example, said second wall member may be provided with an extension portion extending outwardly with respect to said channel member.

In a preferred embodiment, said guide plate is configured such that in said second, carrying position, a surface thereof acts to urge the article being carried towards said first side wall member. For example, said plate may be curved or bent such that in said second position a first part thereof contacts the article being carried. The plate may also be configured such that in said second position, the article's weight is applied to a second part thereof whereby the article's weight provides a force urging said first part into contact with the article.

Preferably, said first and second side wall members of said support member extend substantially parallel to one another. The dimension of at least one of the first and second side wall members in a direction substantially perpendicular to said base is preferably greater than the spacing between said first and second side wall members.

Each of said first and second wall members, and said base, may comprise a substantially planar wall, for example, of plastics material. Additionally and/or alternatively, each said wall member and said base may be formed by wire or other elongate members configured or joined to define said wall members and said base.

In an embodiment, said support member may carry a protective pad. For example, said protective pad may be carried by, or arranged adjacent to, an external surface of said first side wall member remote from the second side

wall member.

According to a further aspect of the present invention, there is provided apparatus for facilitating the carriage of articles by an individual, comprising a support member as defined above, said support member being attachable to carrying means by way of attachment means.

Said carrying means may comprise a harness for an individual having at least one strap. Alternatively, said carrying means may comprise one or more handles, for example, each in the form of an elongate tubular member, rod or the like.

In an embodiment, the attachment means for attaching said support member to said carrying means are releasable.

The invention also extends to a method of facilitating the carriage of articles by an individual, the method comprising the steps of providing a harness around an individual's body, the harness having at least one first strap extending over the individual's shoulder, providing a support member coupled to the harness and depending therefrom, and supporting at least one article by said support member to project forwardly and backwardly of the individual with at least some of its weight transmitted to said strap.

Embodiments of the present invention will hereinafter be described, by way of example, with reference to the accompanying drawings, in which:

Figure 1 shows a back view of an individual wearing apparatus according to one embodiment of the present invention;

Figure 2 shows an elevational view of a harness of the

apparatus of Figure 1;

Figure 3 shows a perspective view of part of a support member of Figure 1;

Figure 4 shows a perspective view of a component of the support member of Figure 3;

Figures 5A to 5E show end views of the support member of Figure 3 illustrating its use;

Figure 6 shows a perspective view of an alternative component for the support member of Figure 3; and

Figure 7 shows an end view of the support member of Figure 3.

Figure 1 shows apparatus of the invention being worn an individual. The apparatus comprises a harness 10 to which a support member 12 is attached. The apparatus is designed to facilitate the carrying, by an individual, of articles which, in use, are to be placed in the support member 12 so that the weight is transferred to the shoulders of the individual by means of the harness 10. Where the articles are elongate, and large, for example are boards, paving slabs, and the like, the individual can steady the article with one or both hands.

In an embodiment, (not illustrated), one or more cords may be provided to steady the article. For example, with a board or slab, a formed corner piece (not shown) may be arranged on each of the two top corners of the board or slab, and a cord extended from each corner piece to said support member 12. The cords may each be retractable into said support member 12 or into said respective corner piece and extensible therefrom against the force of a return spring.

Figure 2 shows an elevational view of the harness 10 which is formed from an arrangement of elongate straps 14, 16, 18 of webbing, canvas, nylon or other material. The

harness 10 comprises a first elongate strap 14 whose ends are connected together and to which attachment means 32 are connected. The first strap 14 is arranged to be placed on one shoulder of the wearer to extend across both the back and front of the individual, as indicated in Figure 1, in the manner of a sash. The attachment means 32 are arranged to be positioned generally adjacent the hip of the wearer on the opposite side of his body to the shoulder on which the strap 14 is placed.

At two spaced locations 15 along its length, the first shoulder strap 14 is connected to a second elongate strap 16. Preferably, the two straps 14, 16 are connected by stitching. It will be seen that the second strap 16 extends generally transversely relative to the first, shoulder strap 14, and it will be appreciated that the second strap 16 may extend around the wearer's upper body, for example, at chest height. Fastening means 30 are provided for releasably fastening the two ends of the second strap 16. In the embodiment illustrated, the fastening means 30 comprises a buckle on one end of the second strap 16 which cooperates with corresponding holes (not shown) in the other end of the second strap 16. The buckle 30 and its corresponding holes thereby enable adjustment of the length of the fastened second strap 16.

A third elongate strap 18 is also connected, for example, by stitching, to said second strap 16 at two spaced locations 17 along said third strap 18. The second strap 16 also extends generally transversely to said third strap 18 which forms another shoulder strap.The ends of the third shoulder strap 18 are each connected, for example, by stitching, to a respective one of two locations 26 spaced along said first strap 14.

The first strap 14 is provided with adjustment means,

indicated at 24, arranged to enable the length of the strap 14 to be adjusted. For example, the adjustment means 24 may enable a loop (not shown) to be formed from a length of the strap 14 whereby the strap 14 is shortened. However, in the illustrated embodiment, the adjustment means 24 comprise a buckle on one end of the strap 14 and corresponding holes on its other ends which releasably fastens the ends of the first strap 14 and also enables the length of the fastened first strap 14 to be adjusted.

The first strap 14 carries attachment means 32 for enabling the attachment of the support member 12 to the harness 10. The attachment means 32 comprise a slotted guide member 31 through which the first strap 14 extends whereby the attachment means 32 are retained on the first strap 14. A hook 20 depends from said guide member 31. Preferably, the attachment means 32 is made of a plastics material and has a unitary construction with the hook 20 and the guide member 31 being formed in one piece.

As is indicated in Figure 1, the support member 12 is attached to the harness 10 to depend therefrom by way of the attachment means 32. The support member 12 is illustrated in Figures 3 and 4, and, as can be seen, comprises an elongate, substantially planar base 40, and two spaced, facing, upstanding side wall members 46 and 50 which each extend upwardly from a respective longitudinal edge 42 and 44 of said base 40. An elongate channel, generally indicated at 45, is thereby defined between the facing side wall members 46 and 50.

In the embodiment illustrated, it will be seen that the two side wall members are substantially planar, solid side walls 46 and 50, and extend substantially parallel to one another. It will also be seen that the base is a substantially planar solid base wall 40 and that each side

wall 46 and 50 is substantially perpendicular thereto.

As can be better seen in Figure 4, the first wall 46 tapers as it extends away from the base wall 40. At or proximate its edge spaced from the base wall 40, the first side wall 46 is provided with an aperture 48 for engagement on the hook 20 of the attachment means 34 carried by the harness.

The support member 12 is provided with guide means to aid in the positioning of an article (not shown) in the channel 45. In the illustrated embodiment, the article to be supported is a board, sheet material, paving slab or the like, and the guide means comprises a guide surface defined by one surface of a plate 60 arranged to extend into the channel 45. The plate 60 is pivotably connected to said second wall 50 by hinge means, indicated generally at 65, provided along the longitudinally extending free edge of the second wall 50.

Figures 3 and 4 show a particularly convenient manner of forming the hinge means 65. As can be seen in Figure 4, two parts of the longitudinally extending free edge of the side wall 50 are extended and formed to define two tubular portions 54 spaced along said free edge. The plate 60 is similarly arranged to carry two spaced tubular portions 64. These tubular portions 64 are arranged at opposite ends of the surface of said plate 60 opposed to its guide surface, and are aligned.It will be appreciated that the tubular portions 64 of the plate 60 can be aligned with the tubular portions 54 of the wall 50 to form a tube through which a rod 58 can extend. The tubular portions 54 and 64, and inserted rod 58, thereby form the hinge means 65 connecting the plate 60 to the wall 50 and enabling pivoting movement of the plate 60.

Biassing means are provided for the plate 60 and, in the illustrated embodiment are associated with the hinge means 65. The biassing means comprise two or more coil springs 66 which are arranged around the rod 58 and have ends contacting the plate 60 and the second side wall 50. The coil springs 66 are arranged such that they urge the plate 60 towards an insertion position shown in Figure 3 in which the plate 60 and the guide surface defined thereby extend at an angle relative to the base wall 40.

A limit stop is provided to prevent movement of the plate 60 beyond the position shown in Figure 3. In the illustrated embodiment, the limit stop is defined by way of a further extension 52 of the longitudinally extending free edge of the wall 50. As will be seen, the extension 52 of the wall 50, which is positioned between the two spaced tubular portions 54, extends upwardly and outwardly relative to the channel 45.

The plate 60 is provided with a support plate 74 for supporting and guiding an edge of an article such as a board, or sheet material. In the embodiment illustrated, the plate 60 and the support plate 74 are formed in one piece with the plate 74 extending substantially perpendicularly of the plate 60 from its lower longitudinally extending edge.

In use, the harness 10 is arranged on an individual as shown in Figure 1, being suitably adjusted by way of the fastening means 24 and 30 for comfort. The attachment means 32 are preferably arranged to be located adjacent the individual's hip. The support member 12 is hooked by way of the aperture 48 onto the hook 20 of the attachment means 32 to depend from the harness 10 with its elongate channel 45 extending substantially transversely to the direction of dependence. Because the support member 12 is hooked onto

the attachment means 32 it is pivotable or swingable relative to the harness 10.

If the individual wearing the harness wishes to carry a board, sheet material, or a paving slab, he orientates the article so to extend generally forwardly and backwardly of the individual with an edge thereof above the elongate channel 45 of the support member 12. He then lifts the article and engages its edge in the channel 45, assisted by the guide surface of the plate 60 which pivots under the weight of the article and against the force of the springs 66 until the support plate 74 is generally along the base of the channel 45. When in position, the weight of the article is taken by the support member 12 and is transmitted to the upper body of the individual by way of the harness 10. The article may therefore be steadied in its position by hand.

It has been found that the longitudinal extent of the channel 45, which of necessity is much shorter than the length of most boards or paving slabs, for example, is not critical. It is necessary for the channel to be longer than about 6 centimetres in length so that it does not apply localised forces to the edge of the article which would potentially cause damage thereto, but otherwise the length of the channel 45 can be chosen to suit individual convenience.

Figures 5A to 5E illustrate in sequence the insertion of the edge of a board 100 into the support member 12. Figure 5A shows an end view of the support member 12 with the plate 60 in its first, insertion position extending at an angle to the base wall 40. The plate 60 is biassed into this position by way of the springs 66, and is retained against the limit stop formed by the extension 52. The board 100 is moved towards and into the channel 45 in the

direction generally indicated by the arrow I, and is placed onto the guide surface of the plate 60.

As shown in Figure 5B, as the board 100 continues to be moved into the channel 45, its weight acts against the action of the springs 66 and pivoting of the plate 60 out of its first position about the hinge 65 is commenced, as is indicated by the arrow P. The continued movement of the board 100 into channel 45 is illustrated in Figures 5C and 5D. At the end of the insertion of the board 100, its edge is supported on the support plate 74 which in turn is supported on the base wall 40 of the support member 12. In that position, the base wall 40, or the second side wall 50,acts to limit further pivotal movement of the plate 60.

Preferably, and as shown, the dimension of each of the first side wall 46 and the plate 60 of the support member 12 substantially perpendicular to the longitudinal extent of the channel is generally greater than the spacing between the two side walls 46 and 50, which defines the width of the channel 45. This enables the plate 60, in its upstanding position as shown in Figure 5E, and the first wall 46 to prevent or control pivoting movement of the board. It will be seen that the width of the channel 45 is somewhat greater than the width of the edge of the board 100. If required, the width of the channel 45 could be reduced to be substantially the same as that of the boards to be carried therein.

Figure 6 shows an alternative embodiment of a plate 160 which may be attached to the second guide wall 50 of the support member 12 to define the pivotable guide surface. The plate 160 shown in Figure 6 comprises two spaced tubular portions 64 which, together with the tubular portions 54, are arranged to receive the rod 58 and thereby pivotably connect the plate 160 to the side wall 50. The

plate 160 is substantially the same as the plate 60 except that it has a curved guide surface defining a support portion 174 rather than having the substantially L-shaped cross-section of the plates 60 and 74. The plate 160 is biassed, and is arranged to pivot and guide a board substantially as described above.

Figure 7 shows an end view of a modified support member 12. In the embodiment of Figure 7, a plastics material cover 190 has been slipped over the upper edge of the first side wall 46 after the attachment of the support member 12 to the hook 20 of the attachment means 32. The plastics material cover 190 protects the connection, and also provides a smooth surface whereby the board is protected from damage from the hook 20.

Because the support member 12 is arranged to depend from the harness 10 such that it pivots or swings, there is a risk of rubbing or chafing to the individual and it is preferred that a protective pad or the like be provided. For example, a protective pad could be carried by the external surface of the first wall 46 of the support member which is remote from the second wall 50. Figure 7 shows a preferred construction in which a protective pad 180 is carried by said attachment means 32 adjacent to, and to extend substantially parallel to the external surface of the first wall 46. The pad 180, which may be constructed of any suitable material, is thereby interposed between the support member 12 and the body of the individual.

It would also be possible to provide protective pads on the harness for the further comfort of the individual. For example, a respective pad could be provided on each of the first and third straps 14 and 18 to form shoulder pads.

The support member 12 is preferably made of a plastics

material, but could also be made of other materials as required. For example, the support member 12 may be made by bending and/or joining lengths of wire to define the support member. Whilst it has been illustrated and described as incorporating pivoted guide means, it would be possible to omit these guide means. Protective pads have been shown and described which are designed to protect the individual. Additionally and/or alternatively the channel of the support member may be provided with protective pads and other protective means to prevent damage to the boards or sheet material to be carried therein.

In the illustrated embodiment, the support member is removably attached to the harness by way of the attachment means, and therefore the support member may be removed from the harness. A handle or handles, for example, each in the form of an elongate rod or tube may be provided with a hook or other attachment means to enable its attachment to the support member. In addition, two or more individuals can be enabled to carry a particularly large or heavy board by the use of a plurality of support members. Each said support member is attached to a handle or handles and carried by one of the individuals, with the board being received in all of the support members.

In the described embodiments, reference has been made to carrying boards or sheet material. However, it will be appreciated that apparatus as described can be used for carrying joists, steel bars and other elongate objects.

It will be apparent that other modifications or variations may be made to the invention described above within the scope of the following claims.

CLAIMS

1. Apparatus for facilitating the carriage of articles by an individual comprising a harness for an individual, the harness having at least one first strap arranged to extend over the individual's shoulder, and a support member attachable to said harness to depend therefrom, said support member defining an elongate channel arranged to extend substantially transversely to the direction of dependence.

2. Apparatus as claimed in Claim 1 wherein, the harness is provided with at least one second strap arranged to extend around the individual's body.

3. Apparatus as claimed in Claim 1 or 2, wherein said support member comprises first and second facing side wall members upstanding from opposed longitudinal edges of a base wall member whereby said channel is defined between said two side wall members.

4. Apparatus as claimed in Claim 3, wherein said first side wall member is attachable to the harness by attachment means allowing pivoting or swinging movement of said support member relative to the harness.

5. Apparatus as claimed in Claim 4, wherein said attachment means comprise a hook on one of the harness or the support member, and an aperture or ring for engagement with the hook on the other of the support member or harness.

6. Apparatus as claimed in Claim 4, wherein said attachment means comprise a slot in said support member through which a strap of said harness extends.

7. Apparatus as claimed in any preceding claim, wherein said support member is provided with guide means arranged to aid in the positioning of an article in said channel.

8. Apparatus as claimed in Claim 7, wherein said guide means comprises a fixed or movable guide surface extending within said channel.

9. Apparatus as claimed in Claim 8, wherein said channel is defined between first and second wall members of said support member, and wherein said guide surface is defined by one surface of a plate arranged to extend into said channel from said second wall member, said plate being pivotably connected to said second wall member so that the plate is pivotable between a first, insertion position, in which said guide surface is at an angle to said second wall member, and a second, carrying position, in which said guide surface is generally parallel to said second wall member.

10. Apparatus as claimed in any preceding claim, wherein said harness is provided with at least one second elongate strap connected or coupled to the or each said first strap to extend generally transversely thereof.

11. Apparatus as claimed in Claim 10, wherein said harness is provided with at least one third elongate strap whose ends are connected, coupled, or are connectible together.

12. Apparatus as claimed in Claim 10 or 11, further comprising releasable fastening means arranged to connect the ends of one or more of said straps.

13. Apparatus as claimed in any of Claims 10 to 12, further comprising adjustment means to enable the length of

selected ones of said straps to be adjusted.

14. A support member for facilitating the carriage of articles by an individual, said support member comprising an elongate base, and first and second facing side wall members upstanding from opposed longitudinal edges of said base and defining an elongate channel extending between said side wall members, and attachment means at or proximate a free edge of said first side wall member for enabling the connection of the support member to carrying means.

15. A support member as claimed in Claim 14, further comprising the features defined in Claims 3 to 9.

16. A support member as claimed in Claim 14 or 15, wherein said first and second side wall members extend substantially parallel to one another, the dimension of at least one of the first and second side wall members in a direction substantially perpendicular to said base being greater than the spacing between said first and second wall members.

17. A support member as claimed in any of Claims 14 to 16, wherein each said wall member and said base is formed from wire configured or joined to define said wall members and said base.

18. Apparatus for facilitating the carriage of articles by an individual, comprising a support member as defined in any of Claims 1 to 17, said support member being attachable to carrying means by way of attachment means.

19. Apparatus as claimed in Claim 18, wherein said carrying means comprises a harness for an individual hving at least one strap.

20. Apparatus as claimed in Claim 18, wherein said carrying means may comprise a handle or handles, for example, each in the form of an elongate tubular member or rod.

21. A method of facilitating the carriage of articles by an individual, the method comprising the steps of providing a harness around an individual's body, the harness having at least one first strap extending over the individual's shoulder, providing a support member coupled to the harness and depending therefrom, and supporting at least one article by said support member to project forwardly and backwardly of the individual with at least some of its weight transmitted to said strap.

22. Apparatus for facilitating the carriage of articles by an individual substantially as hereinbefore described with reference to the accompanying drawings.

23. A support member for facilitating the carriage of articles by an individual substantillay as hereinbefore described with reference to the accompanying drawings.

24. A method of facilitating the carriage of articles by an individual substantially as hereinbefore described with reference to the accompanying drawings.

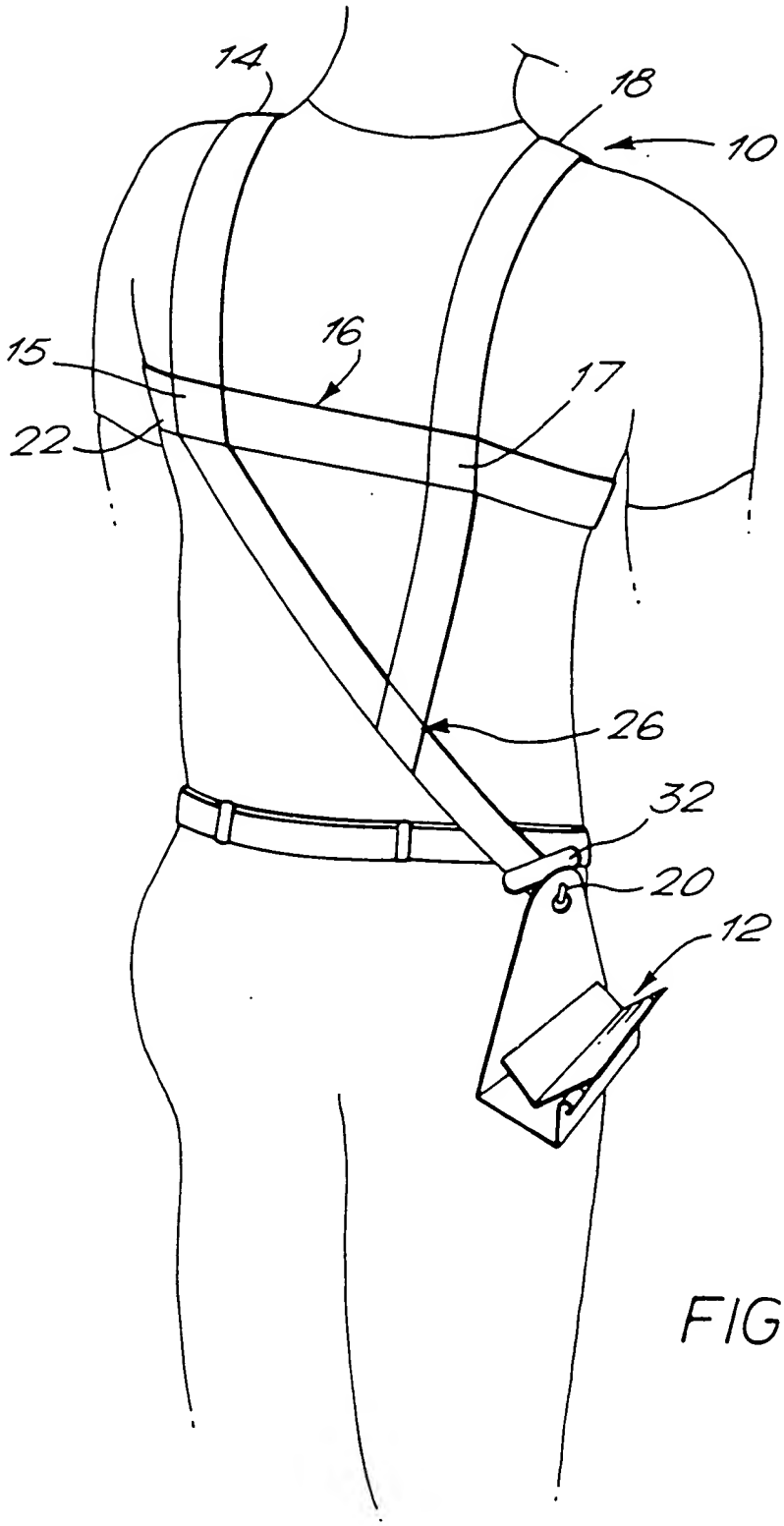


FIG.1.

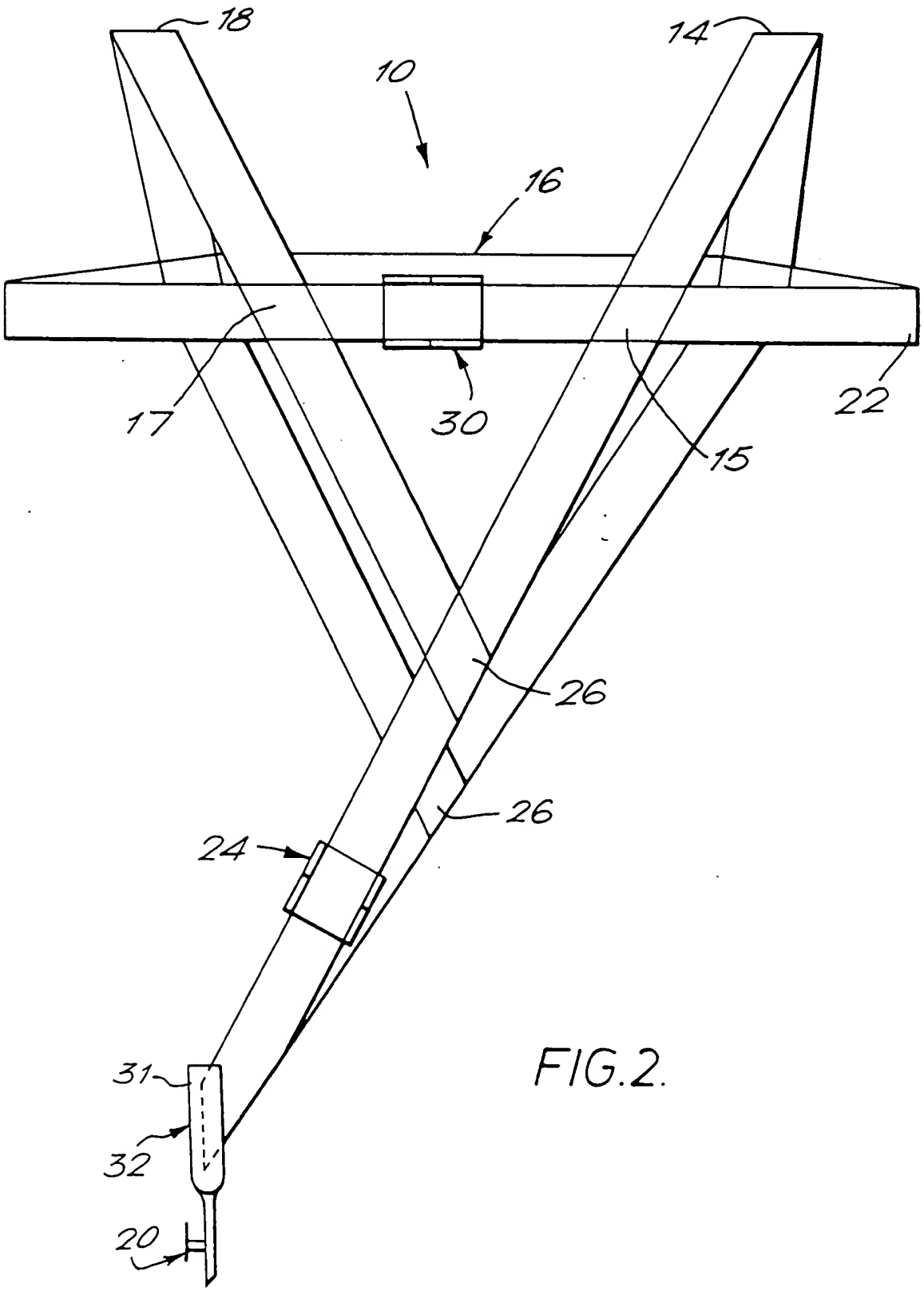


FIG.2.

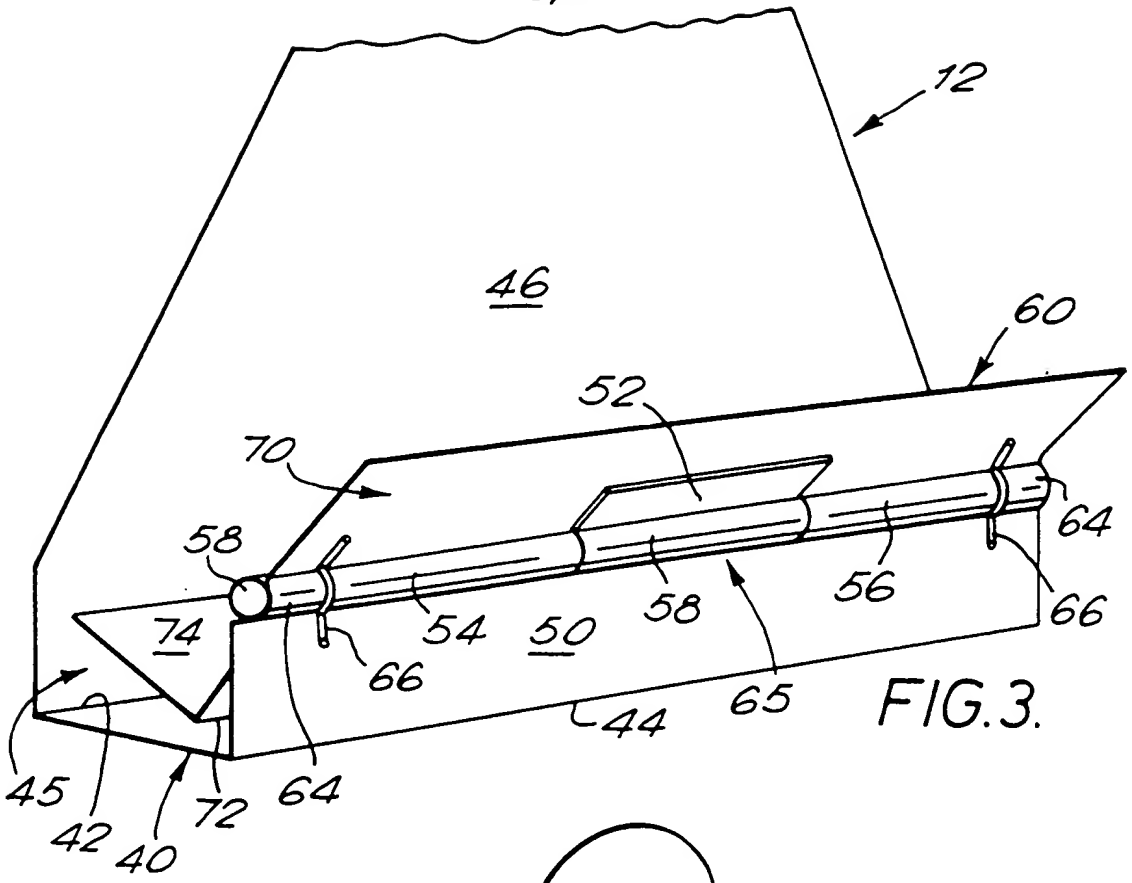

12
46
60
52
70
58
64
74
54
50
58
56
66
66
45
42
40
72
64
44
65

FIG. 3.

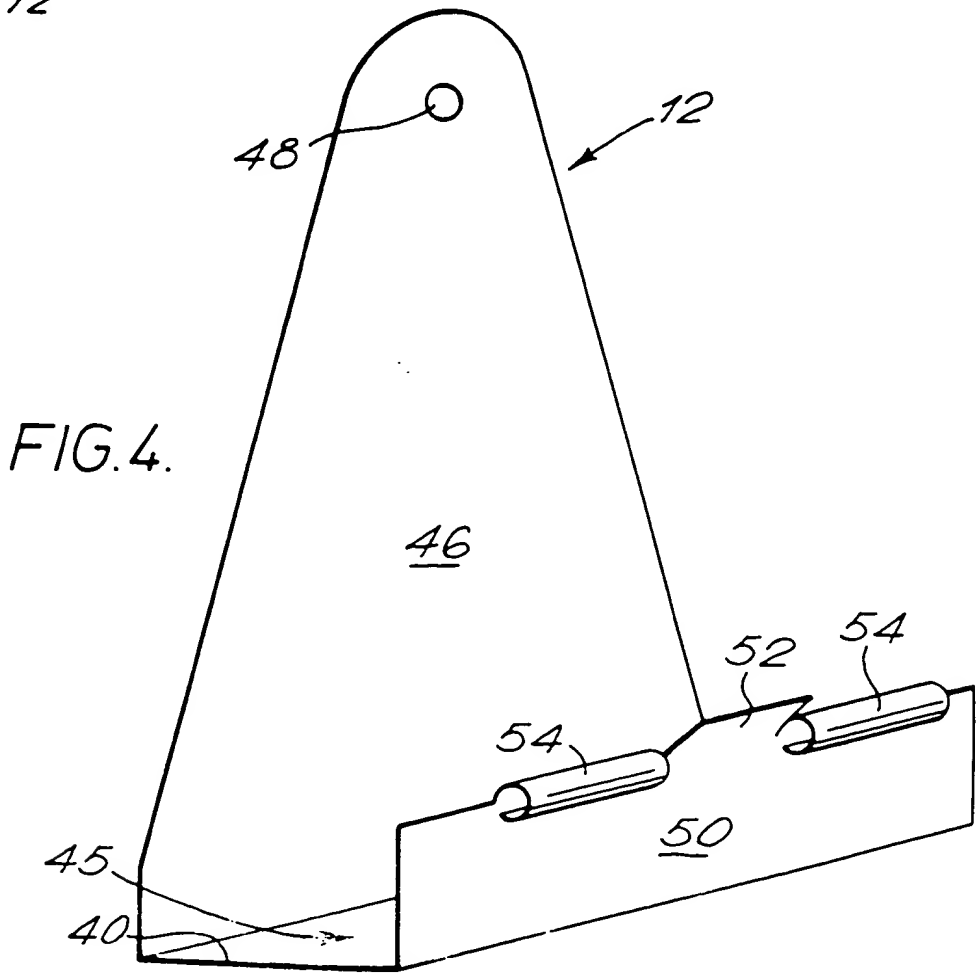

48
12
46
52
54
54
50
45
40

FIG. 4.

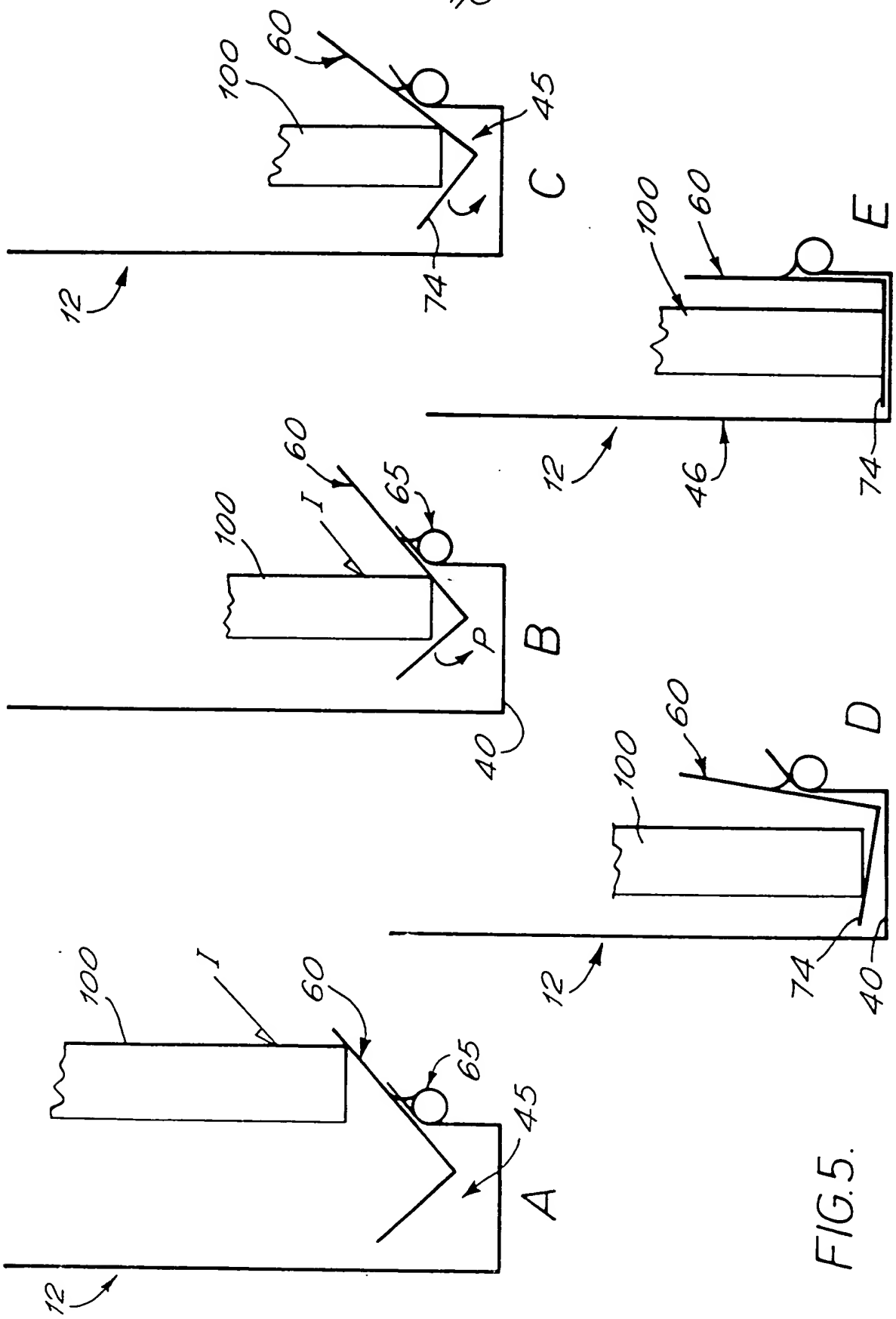


FIG.5.

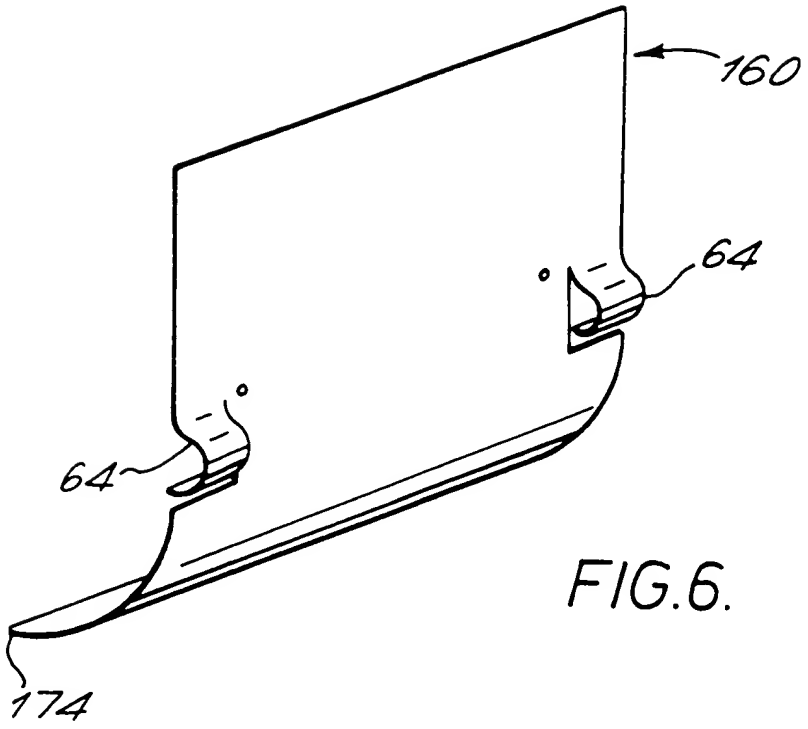


FIG.6.

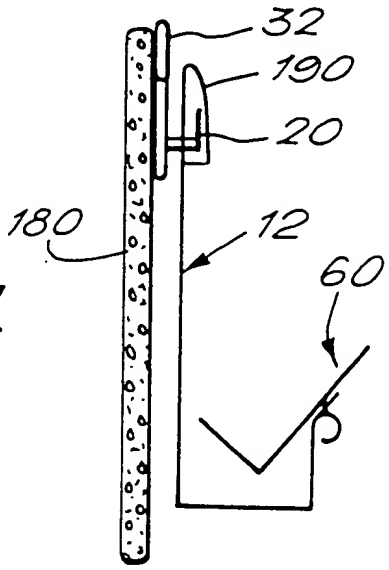


FIG.7.

INTERNATIONAL SEARCH REPORT

International Application No PCT/GB 91/00352

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all)[6]

According to International Patent Classification (IPC) or to both National Classification and IPC

Int.Cl. 5 A45F3/14 ; B65G7/12

II. FIELDS SEARCHED

Minimum Documentation Searched[7]

Classification System	Classification Symbols
Int.Cl. 5	A45F ; B65G

Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched[8]

III. DOCUMENTS CONSIDERED TO BE RELEVANT[9]

Category[10]	Citation of Document,[11] with indication, where appropriate, of the relevant passages[12]	Relevant to Claim No.[13]
X	DE,B,1 263 239 (FINWICH) March 14, 1968 see column 5, line 32 - line 52; figures 1,4-5	1,3-4, 10,14, 16,18-19,21-24
Y	---	2,11-13
X	FR,A,1 274 625 (DURIF) September 18, 1961 see page 1, right column, paragraph 4; figures	1,3-4,6, 14,16, 18-19, 21-24
X	--- US,A,2 430 142 (ROBERTS) November 4, 1947 see column 1, line 31 - line 44; figure 1	14, 16-18,20
	--- -/--	

[10] Special categories of cited documents:[10]

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report
31 MAY 1991	21. 06. 91
International Searching Authority	**Signature of Authorized Officer**
EUROPEAN PATENT OFFICE	BRIDAULT A.A.Y.

Form PCT/ISA/210 (second sheet) (January 1985)

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)

Category °	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 13, no. 33 January 25, 1989 & JP-A-63 242 812 (YOSHINO SEKKO KK) October 7, 1988 see the whole document	2,11-13
A	GB,A,2 155 319 (DUGDALE) September 25, 1985 see abstract	7
A	FR,A,1 127 999 (MAUCHAMP) December 28, 1956 see page 1, left column, last paragraph - right column, paragraph 2; figure 1	11

ANNEX TO THE INTERNATIONAL SEARCH REPORT ON INTERNATIONAL PATENT APPLICATION NO. GB9100352

SA 45167

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information. 31/05/91

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE-B-1263239		None	
FR-A-1274625		None	
US-A-2430142		None	
GB-A-2155319	25-09-85	None	
FR-A-1127999		None	